SERVICE MANUAL SUPPLEMENT

4436

MODEL 2912PS AUTOMATIC SLICER WITH PORTION SCALE ML-104833

This Service Manual Supplement should be used with Service Manual Form 24569 02-98.

- NOTICE -

This Manual is prepared for the use of trained Hobart Service Technicians and should not be used by those not properly qualified. If you have attended a Hobart Service School for this product, you may be qualified to perform all the procedures described in this manual.

This manual is not intended to be all encompassing. If you have not attended a Hobart Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Hobart Service Technician.

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GENERAL

INTRODUCTION

NOTE: This is a supplement to Models 2612, 2712, 2812 and 2912 Service Manual F-24569 02-98.

Model

2912PS - Automatic Slicer with Portion Scale that displays the weight or slice count. Six preset values can be programmed with weight or slice count.

The scale display can Tare to indicate Net Weight but is **NOT LEGAL FOR TRADE.**

Features

Knife Home start - The knife motor will not start unless the carriage unit is at the indexing knob end of the slicer. (Home Position)

Poly-V Belt driven knife.

Interlock Switch - Prevents the continuous operation of the knife motor when the index knob is below “0".

Carriage interlock - The gauge plate cannot be opened if the carriage unit is not installed onto the unit.

No voltage release - Requires the slicer to be manually re-started after a power interruption.

Portion Scale - Portion control with weight and count with display.

Carriage Tray Assembly with Two Handles

Sharpener Housing Mount, Base and Tray Support Assembly - They have an anodized finish.

Cleaning -Lift lever on side.

Automatic Home Return - When user defined preset weight or slice count is reached, carriage will stop at the home position.

Carriage Speeds (Automatic Mode) - Six carriage speeds.

Carriage Home Start - The automatic drive motor will not start unless the carriage unit is at the operator end of the slicer (home position).

Automatic shut-off - If enabled, slicer will turn off (in manual mode only) if a keystroke or full stroke of the carriage has not been made within a 10 second interval.

OPERATION

Refer to Instruction Manual F-34214

SPECIFICATIONS

Electrical

120/60/1

Scale Capacity

	Capacity	Increments	Max. Tare	Re-zero at Power Up	Rezero Key
LB.	6	.01	2.00	± 0.30	± 0.11
OZ.	96.5	.5	32	4.5	2
KG.	3	0.010	1.000	± 0.150	± 0.060
GM.	3030	10	1000	150	60

TOOLS

NOTE: The special tools listed below are required in addition to those tools shown in Service Manual F-24569 02-98

Special

Set of certified pound test weights TL No. 77617-1.

Set of certified kg. test weights TL No. 77617-26.

Trimpot Tool Part Number 539123 for adjustment of automatic low/high speeds.

Loctite Number 242, Part Number 520228, used on automatic motor mounting screws.

In. lb. Torque Wrench.

Combination Square

RTV 732 Dow clear silicone, Part Number 513886-3 for sealing scale keypad to bezel.

REMOVAL AND REPLACEMENT OF PARTS

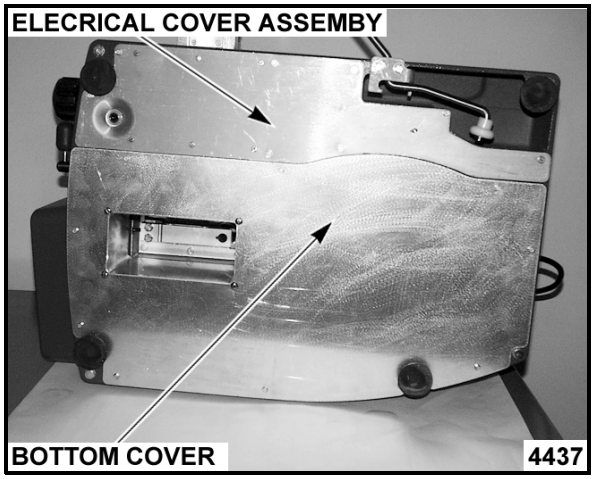
NOTE: Many procedures state the carriage transport assembly should be moved to home position. The carriage transport assembly is in home position when it is pulled all the way to the operator end of the slicer.

CAUTION: Certain components in this system are subject to damage due to electrostatic discharge. A Field Service Grounding kit is available to prevent this damage. The Field Service Grounding kit must be used when any electronic boards or cables are handled.

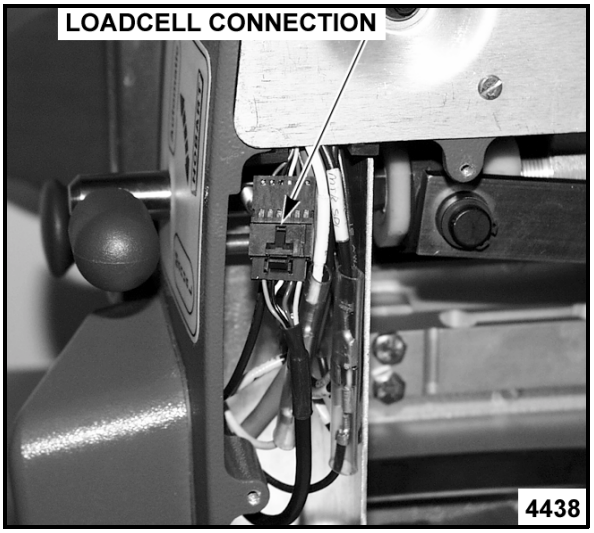
UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS

WARNING: UNPLUG UNIT BEFORE SERVICING.

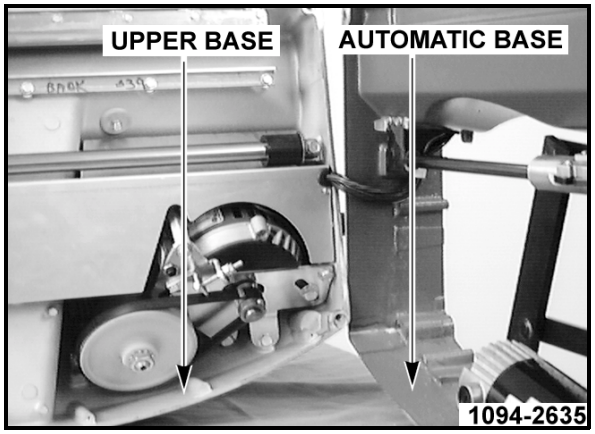
1. Turn index knob to below 0 position (fully clockwise).
2. Move carriage transport assembly to home position.
3. Remove “CARRIAGE TRAY ASSEMBLY”, as outlined in the service manual.
4. Remove “KNIFE SHARPENER”, as outlined in the service manual.
5. Remove platter and platter support assembly by lifting.
6. Turn the slicer up and rest it on the sharpener side of the automatic base.



7. For components in the automatic base, under the bottom cover, unscrew lower feet, remove ten screws around outline of cover and pull cover from automatic base.
8. For components in the automatic base, on the electrical cover assembly, remove eight screws and carefully pull assembly outward to access wiring connections.
9. For components in the upper base, perform Step 7 and disconnect loadcell.

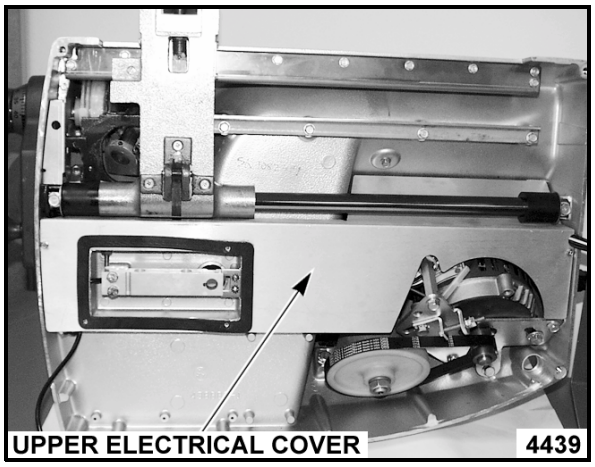


   A. Unscrew the upper right hand foot.
   B. Remove four screws to free automatic base from upper base and position automatic base as shown.



C. For components behind the upper electrical cover, remove five screws.

1) Pull cover on an angle away from the on/off switch outward and upward for removal.

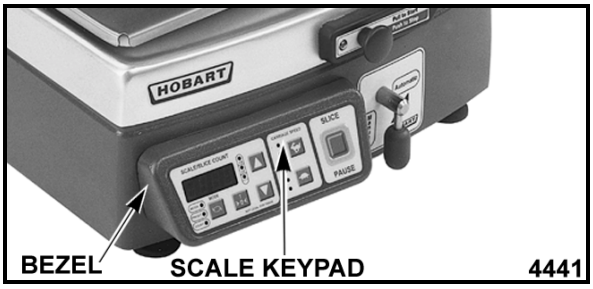


10. Reassemble in reverse order.
11. Check unit for proper operation.

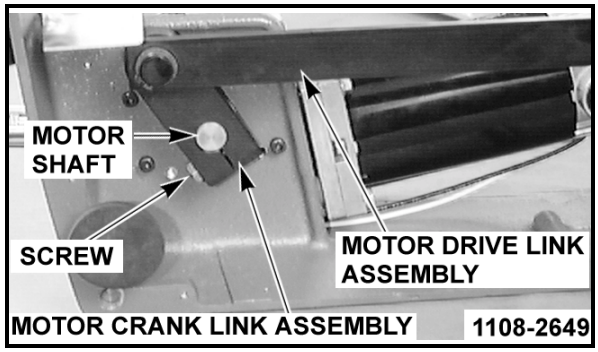
SCALE KEYPAD OR BEZEL

NOTE: When replacing the bezel, a new scale keypad must be installed.

WARNING: UNPLUG UNIT BEFORE SERVICING.



1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-7 and 9-9B as outlined in this supplement.
2. Disconnect motor wires in speed selector switch cavity and pull them from half grommet.
3. Loosen screw in motor crank link assembly.

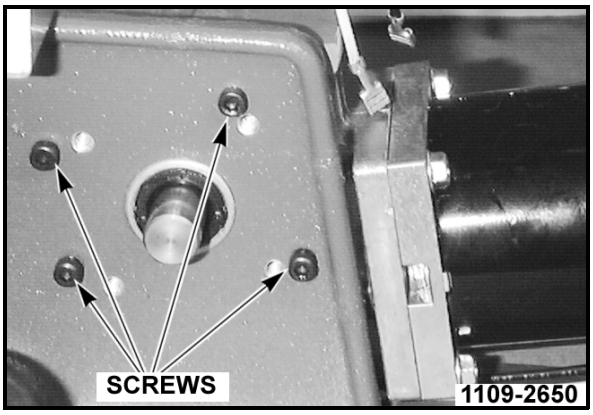


NOTE: When reinstalling, place the motor crank link nearly flush with the end of the output shaft, but maintain clearance between back of link and the automatic base. Tighten the screw to 90 ± 3 inch pounds.

4. Remove retaining ring where motor drive link assembly is attached to the main link assembly.

A. Pull motor crank link/motor drive link assemblies from main link assembly and automatic motor shaft.

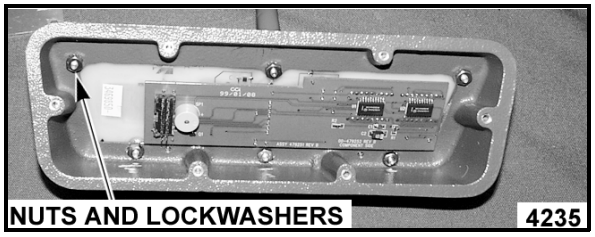
5. Remove four screws and pull automatic motor from base. **NOTE:** When installing the automatic motor mounting screws, use Loctite No. 242 and torque to 25 ± 3 inch pounds.



6. Remove two screws holding automatic/manual switch mounting bracket to automatic base and move out of the way to access slice count bezel mounting screws.
7. Remove six screws holding bezel and gasket to automatic base and carefully pull outward to access keypad cable.

A. Disconnect cable from keypad.

8. Remove six nuts and lockwashers holding keypad to bezel.



A. Press keypad from bezel using your hands.

9. Clean RTV from keypad mounting surface of bezel.

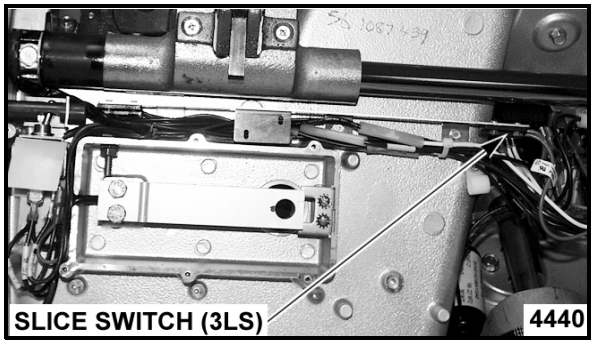
A. Apply RTV 732 Dow clear silicone to keypad mounting surface.

10. When installing the new keypad, remove protective paper from over buzzer and backing from perimeter of keypad.
11. Reassemble in reverse order.
12. Check unit for proper operation.

SLICE SWITCH (3LS)

WARNING: UNPLUG UNIT BEFORE SERVICING.

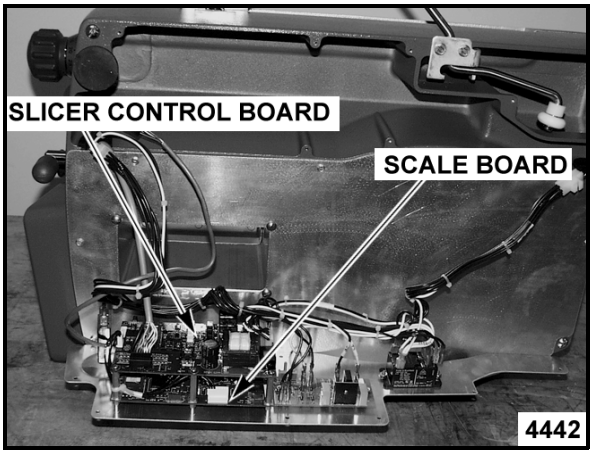
1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS” Steps 1-7 and 9-9C 1), as outlined in this supplement.



2. Remove three screws to free switch bracket from base.
3. Remove two screws, nuts and lockwashers to free switch from switch bracket.
4. Remove P clamp.
5. Note location of switch wires, cut wire tie(s) and disconnect wires.
6. Reassemble in reverse order.
7. Check unit for proper operation.

SLICER CONTROL BOARD

WARNING: UNPLUG UNIT BEFORE SERVICING.

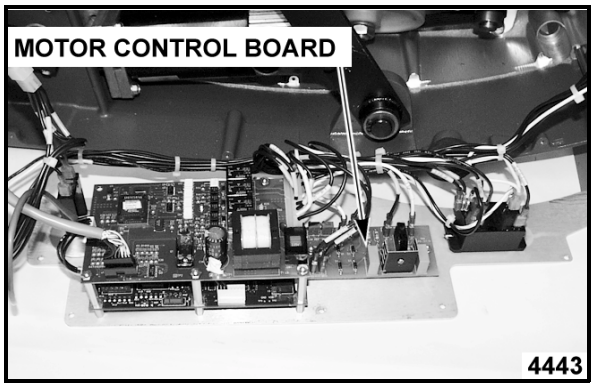


1. Perform ‘UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-6 and 8 as outlined in this supplement.
2. Disconnect J1, J2 and J3 from board.
3. Remove six nuts and washers. Lift board from standoffs.
4. Reassemble in reverse order.
5. Check unit for proper operation.

MOTOR CONTROL BOARD

WARNING: UNPLUG UNIT BEFORE SERVICING.

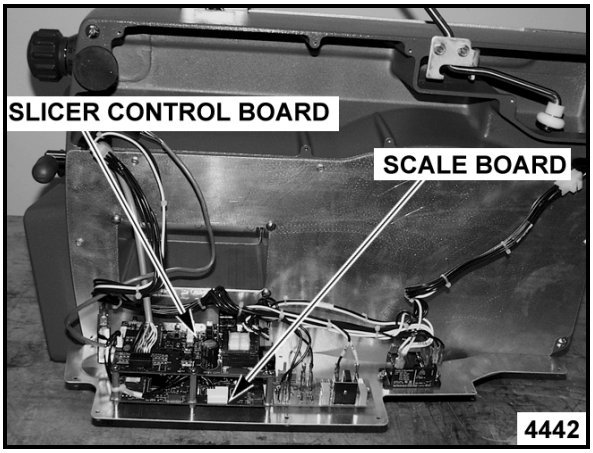
1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-8 as outlined in this supplement.
2. Place the connected electrical cover assembly in front of the automatic base.



3. Note the location of the wires and disconnect them.
4. Remove the mounting hardware to free the board from the electrical cover assembly.
5. Reinstall the board and connect the wires.
6. Perform “AUTOMATIC LOW/HIGH SPEED ADJUSTMENT”, as outlined in this supplement, beginning at Step 3.

SCALE BOARD

WARNING: UNPLUG UNIT BEFORE SERVICING.



1. Remove “SLICER CONTROL BOARD”, as outlined in this supplement.
2. Disconnect J2, J3 and J5 from board.

3. Remove three standoffs, three nuts and washers.
   A. Lift board from standoffs.
   B. Remove two standoffs from board transformer and save.

NOTE: Check that the voltage selector switch (SW3) on the replacement board is set for 115 volts.

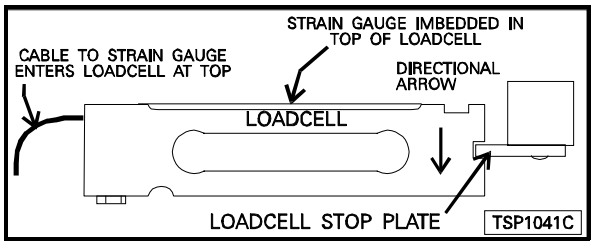
4. Reassemble in reverse order.
5. Calibrate the loadcell as outlined in “SERVICE PROCEDURES AND ADJUSTMENTS , CALIBRATION OF LOADCELL”, this supplement.
6. Check unit for proper operation.

LOADCELL

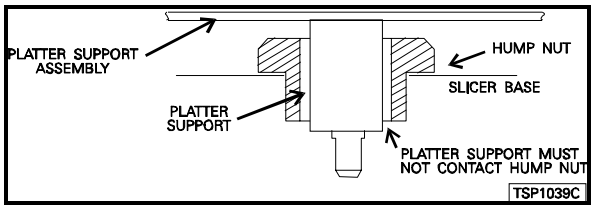
WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-7 and 9-9C 1), as outlined in this supplement.
2. Remove the two screws and lockwashers holding loadcell to the base.

3. The directional arrow on the loadcell must point down, away from the slicer base. If the directional arrow is not on the loadcell, install with the strain gauge toward the slicer base. Attach to the base using two screws and lockwashers. Finger tighten screws.



4. Place the platter support assembly into the humpnut/loadcell hole in the base.
   A. Adjust the position of the loadcell until the platter support assembly is centered in the humpnut hole.
   B. While holding the loadcell in place tighten the mounting screws to 50-65 in.lbs.



5. Adjust the loadcell stop plate as outlined in “SERVICE PROCEDURES AND ADJUSTMENTS “, LOADCELL STOP PLATE ADJUSTMENT”, this supplement.
6. Reassemble in reverse order, step 1 of this procedure.
7. Calibrate loadcell as outlined in “SERVICE PROCEDURES AND ADJUSTMENTS , CALIBRATION OF LOADCELL”, this supplement.
8. Check unit for proper operation.

SERVICE PROCEDURES AND ADJUSTMENTS

WARNING: CERTAIN PROCEDURES IN THIS SECTION REQUIRE ELECTRICAL TEST OR MEASUREMENTS WHILE POWER IS APPLIED TO THE MACHINE. EXERCISE EXTREME CAUTION AT ALL TIMES. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

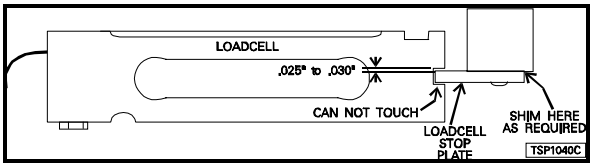
CAUTION: Certain components in this system are subject to damage due to electrostatic discharge. A Field Service Grounding kit is available to prevent this damage. The Field Service Grounding kit must be used when any electronic boards or cables are handled.

LOADCELL STOP PLATE ADJUSTMENT

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Access the loadcell by performing “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-7 and 9-9C 1) as outlined in this supplement.
2. There should be a .025" to .030" gap between the loadcell and the top of the loadcell stop plate with “0" weight on the platter.
3. Add or remove shims until correct.

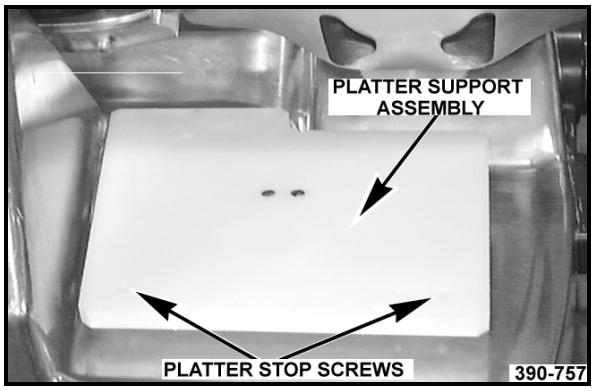
NOTE: Only use shims listed in Parts Catalog.



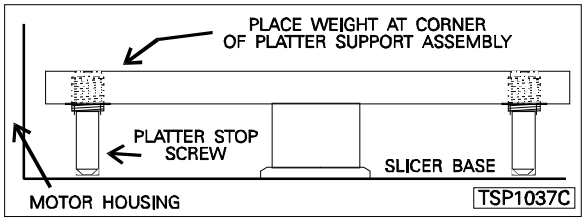
4. Reassemble in reverse order, step 1 of this procedure.
5. Check the scale for accuracy.

PLATTER STOP ADJUSTMENT

1. Plug the slicer in and allow to self-zero.
2. Remove the stainless steel platter, but leave the platter support assembly in place.



3. Place 8 lbs. (3.6 kg) on one of the corners where a platter stop screw is located on the platter support assembly.
4. Remove the RTV on top of the platter stop screw and turn the screw until it touches the slicer base. Watch the display for the weight to decrease, this indicates that the screw is touching the slicer base.
5. Back the screw out a little at a time, until the display stops changing.
6. Turn the stop screw 1 turn counterclockwise.

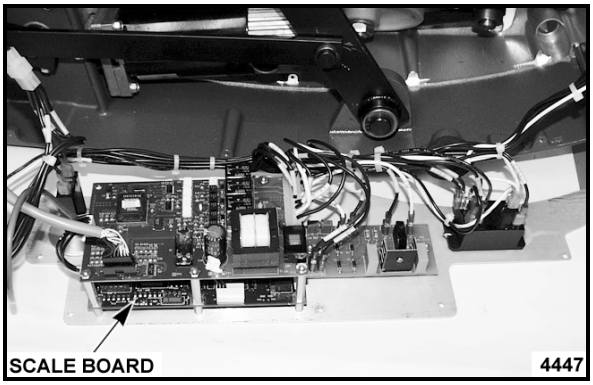


7. Move the 8 lbs. (3.6 kg.) to the other corner with a platter stop screw and repeat steps 5-8.
8. Remove the weight.
9. Apply RTV to the top of the two screws and smooth the surface.
10. Install the stainless steel platter on the platter support assembly.

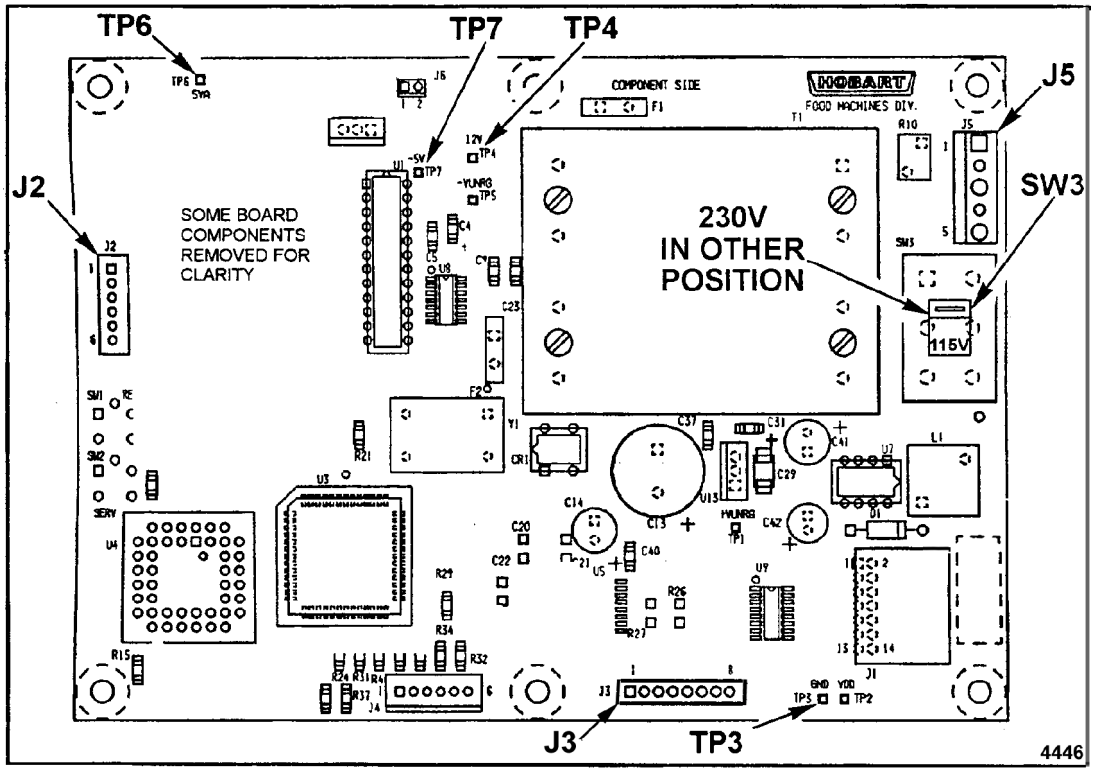
SCALE BOARD TEST

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Determine line voltage to unit.
2. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-8 as outlined in this supplement.
3. Place the connected electrical cover assembly in front of the automatic base.



4. Plug the unit in.
5. Check for line voltage across J5-1 and J5-5. If incorrect, correct before proceeding.
6. Using TP3 as ground, check for:
   +5VDC at TP6; +12VDC at TP4 and -5VDC at TP7.
   A. If voltages test correctly, continue to troubleshoot using “Troubleshooting” in this supplement.
   B. If voltages test incorrectly, replace the board.



7. Unplug unit.
8. Perform Step 2 in reverse order.
9. Check unit for proper operation.

SERVICE PROGRAMMING

Programming Entry

1. With the slicer plugged in, turned off and the manual/automatic lever in automatic, index knob above “O”, pull and release start switch knob. Wait for display.
2. Press and hold mode and → T 0 ← keys at the same time for six seconds. Display will show Prog, then display CAL, CnF or dIAg. The information for service diagnostics (dIAg) has not been developed at this time.

NOTE: Configuration (CnF) of the slicer must be done prior to calibration (CAL) of the loadcell.

Programming Exit

Exit the service programming mode by pressing the mode key again for two seconds.

Main Menu

Main Menu			
Display	**Key**	**Action (when key pressed)**	**Comments**
CAL (Stands for Calibration)	MODE	Step to Next Function (CnF)	Entry to functions
	→ T 0 ←	CAL then execute loadcell calibration	Entry to calibration
	MODE PRESSED FOR TWO SECONDS	Return to normal operation	Exit from programming
CnF (Stands for Configuration)	UP ARROW	CnF, then enter setup function	Entry to setup programming
	MODE	Step to Next Function (dIAg)	
	MODE PRESSED FOR TWO SECONDS	Return to normal operation	Exit from programming
dIAg (Stands for Service Diagnostics)	XXXX	XXXX	XXXX
	MODE	SEr Displayed then back to CAL Display	
	MODE PRESSED FOR TWO SECONDS	Return to normal operation	Exit from programming

Calibration of Loadcell (Cal) (Lbs. Or Kgs.)

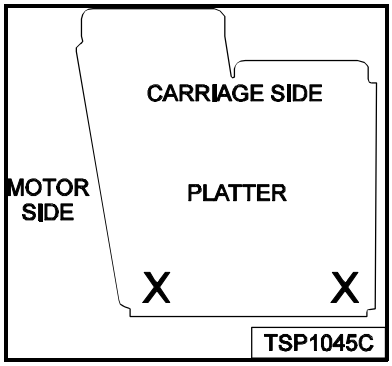
NOTE: If a displayed number does not fall within the range, the loadcell cannot be calibrated until the problem is corrected.

NOTE: Remove all weight from scale platter before calibration of loadcell.

Calibration of Loadcell → 0 ← key		
Display	**Key**	**Comments**
0.00	MODE	
8.00 lbs or 3.600 kgs	MODE	Place weight (8.00 lbs. Or 3.6 kgs.) on platter.
0.00	MODE	Remove all weight from the scale platter.
XXXX	MODE	Range: 0E00 - 1200 (lbs. or kgs.).
1.00 lb or 1.000 kg	MODE	Place weight (1 lb. or 1 kg.) on the platter.
XXXX	MODE	Range: 1F00 - 2100 (lbs.) 4500 - 47FF (kgs.)
6.00 lbs. or 3.2 kgs	MODE	Place weight (6.0 lbs. or 3.2 kgs.) on the scale platter.
XXXX	MODE	Range: 1F00 - 2100 (lbs.) 4500 - 47FF (kgs.)
XXXX	MODE	Range: 1F00 - 2100 (lbs.) 4500 - 47FF (kgs.)
0.00	MODE	Remove all weight from the scale platter. **NOTE:** All calibration parameters are stored at this point.
XXXX	MODE	Range: 0E00-1200
donE	MODE	Test complete. Return to main menu.
	MODE PRESSED FOR TWO SECONDS	Return to normal operation.

NOTE: Do the following to ensure proper operation of the scale.

1. Perform an increasing and decreasing load test.
2. Perform an overtravel load test by placing 6 lbs. on one of the corners indicated by a “X” and verifying that the platter stop does not touch the slicer base. Repeat for the other corner.



Configuration Programming (CnF)

NOTE: The following is a listing of the programmable features and the factory defaults.

Programmable Features

- Weight unit
  - Domestic: LB. (Default) or ounces.
  - International: KG (default) or grams.

    (All units can select the four units described above (at the Factory level), however, there will be two different display options. One for kg/g, the other for lb./ounces).
- Motion indicator On/Off.

  On: Dash out the display while in motion.

  Off: Continue showing weight.
- Auto-zero: ENABLE/DISABLE.

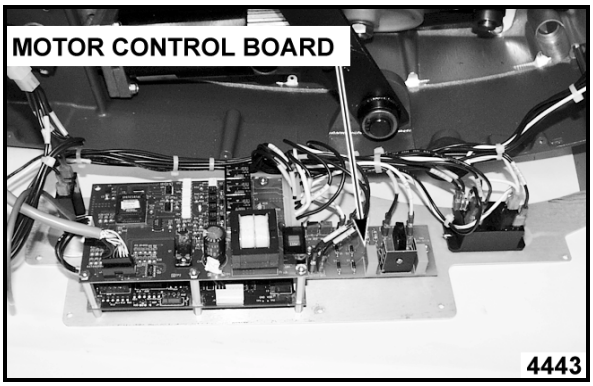
Configuration Programming			
Display	**Key**	**Action (when Key pressed)**	**Comments**
oE, HI g, Lo g, or Lb	UP ARROW	Toggle between Lb, oE, HI g and Lo g weight modes Default: Factory will set to Lb for domestic, HI g (KG) for international.	Select Lb, oE, HI g or Lo g weight mode. The OZ/GR or LB/ KG indicator flashes to match the display and indicate the active mode.
	MODE	Saves setup and goes to the next step.	
no bL or bL	UP ARROW	Toggle between: no bL: Do not blank, display data during motion. bL: Displays - - - - blank during motion. Default: no bL (Do not blank)	Select display data or blank when the platter is in motion.
	MODE	Saves setup and goes to the next step.	
no A0 or A0	UP ARROW	Toggle between: no AO: Auto-zero OFF AO: Auto-zero ON Default: AO (Auto-zero ON)	Select auto-zero mode (on or off)
	MODE	Saves setup and goes to the next step.	
donE	MODE	Flashes Ser, then return to main menu.	
	MODE PRESSED FOR TWO SECONDS	Return to normal operation.	

THE MOTOR CONTROL BOARD AND AUTOMATIC DRIVE MOTOR TEST

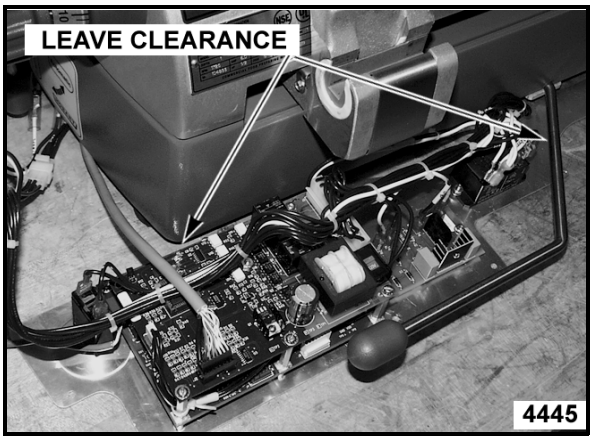
NOTE: Due to the operating characteristics of the motor control board, an open circuit or a no load condition at J6 and J7 may result in voltage readings which could lead the service technician to an incorrect conclusion.

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Perform "UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS", Steps 1-8 as outlined in this supplement.
2. Place the connected electrical cover assembly in front of the automatic base.



3. Carefully return the slicer to the upright position taking care to leave clearance between the automatic base and the electrical cover assembly.



4. Disconnect the motor wires from J6 and J7 and continuity check the motor and motor wiring including the brushes.
   A. 4 to 8 ohms is the normal range.
   B. Reconnect motor after continuity has been verified.
5. Check for correct voltage to the slicer.
6. Turn the Index knob above "0".
7. Turn on the Slicer.
8. Place Lever in automatic position.
9. Press and release the SLICE/PAUSE switch.
10. Check for 120 VAC input at J2 and J1 of motor control board.
    A. If incorrect, trace back to find the source of voltage loss.
    B. If voltage is present:
       1) Disconnect J3 from motor control board. The automatic drive motor should run in low speed.
       2) Disconnect J3 and J4, short the connectors on the board. The motor should run in high speed.
11. If the motor does not run as stated above, replace motor control board, and adjust as outlined in "AUTOMATIC LOW/HIGH SPEED ADJUSTMENT", steps 3 and 5 thru 20 in this supplement.

TESTING THE SLICER CONTROL BOARD

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Perform steps 1-3 and 5-9 of the "THE MOTOR CONTROL BOARD AND AUTOMATIC DRIVE MOTOR TEST", as outlined in this supplement.

NOTE: 120 VAC REFERS TO THE HOT SIDE OF THE LINE VOLTAGE (BLACK WIRE). 2CR-O IS A CONVENIENT PLACE TO ACCESS NEUTRAL.

2. Check for 120 VAC at slicer control board J3-4, J3-5, J3-6, J3-7, J3-8, J3-9 and J3-12.

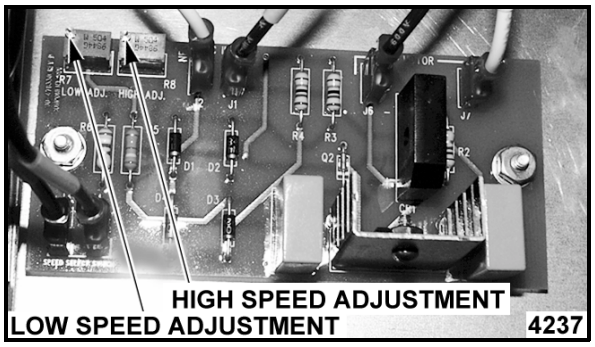
NOTE: J3-5, 6, 9 and J3-10 are inputs.

3. If voltages are not present, check the circuits associated with these terminals.
4. If those circuits check "OK", replace slicer control board.
5. Reassemble and check for proper operation.

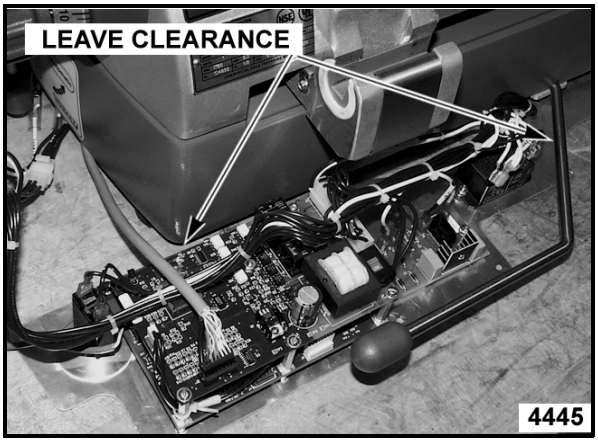
AUTOMATIC LOW/HIGH SPEED ADJUSTMENT

WARNING: UNPLUG UNIT BEFORE SERVICING UNIT.

NOTE: The speed adjustment should be made with a cold automatic motor. Use the trimpot tool to make potentiometer adjustments. After each potentiometer adjustment on the motor control board the carriage assembly must cycle three complete strokes before the accurate adjusted strokes per minute are displayed. Turn the potentiometer clockwise for higher number of strokes, counterclockwise for a lower number.



1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, Steps 1-8 as outlined in this supplement.
2. Place the connected electrical cover assembly in front of the automatic base.
3. Reinstall feet.
4. Carefully return the slicer to the upright position taking care to leave clearance between the automatic base and the electrical cover assembly.

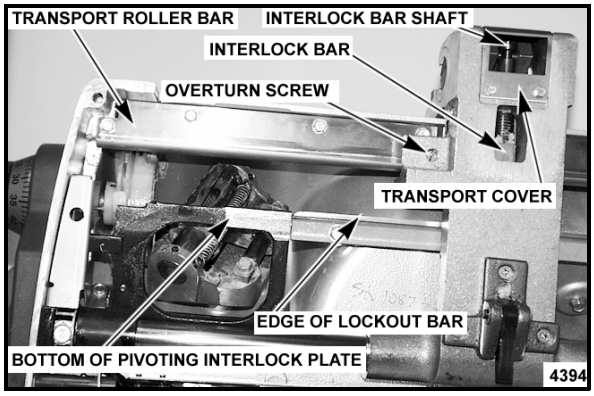


5. Reinstall the “CARRIAGE TRAY ASSEMBLY”, as outlined in the service manual.
6. Plug unit in.
7. Turn unit on and place in automatic.
8. Press tortoise key until only one LED is lit (low speed).
9. Press slice/pause switch. If motor is not running, adjust low speed adjustment potentiometer clockwise until automatic motor runs.
10. Press and hold tortoise key for two seconds to access carriage strokes per minute mode (all LEDS off).
11. Adjust low speed potentiometer until 16 strokes + or - 2 is displayed.
12. Press hare key until carriage speed is on high (all speed LEDS lit).
13. Adjust high speed potentiometer until 52 ± 1 is displayed.
14. Press slice/pause switch to halt carriage at home.
15. Place unit in manual and turn off.
16. Unplug unit.
17. Remove “CARRIAGE TRAY ASSEMBLY”, as outlined in the service manual.
18. Turn the slicer up and rest it on the sharpener side of the automatic base.
19. Perform Step 1 of this procedure in reverse order.
20. Check unit for proper operation.

CARRIAGE TRANSPORT ASSEMBLY ADJUSTMENTS

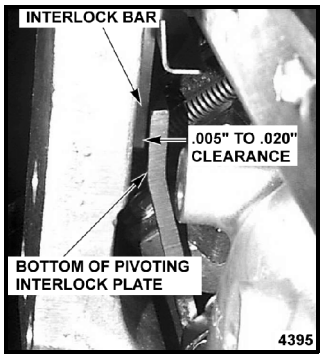
The carriage transport assembly is adjusted properly when:

1. The interlock bar clears the bottom of the pivoting interlock plate assembly by .005" to .020" when in the locked position.
2. The interlock bar clears the edge of the lockout bar during carriage movement by a maximum of .030" but with no interference.
3. The overturn screw is within .005" maximum, but no interference with the transport roller bar.

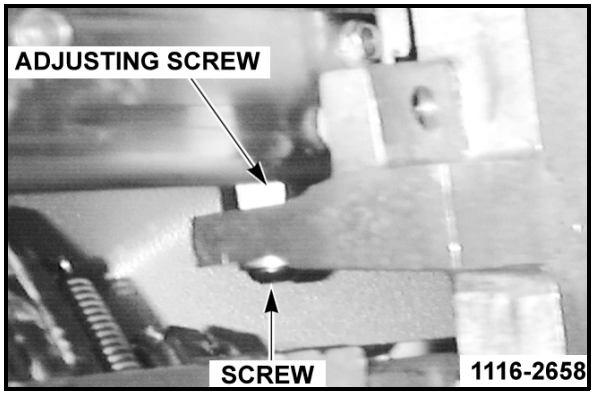


TO ADJUST:

1. These adjustments should be performed in the following order and all should be checked anytime an adjustment is made.
2. **WARNING:** UNPLUG UNIT BEFORE SERVICING.
3. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, steps 1-6 and 9-9B as outlined in this supplement.
4. Loosen the four screws holding the lockout bar to the base.
   A. Lift the lockout bar upward to its highest position and tighten the four screws.
5. To adjust the interlock bar clearance:
   A. Position the carriage transport assembly in the home and locked (tilted) position.

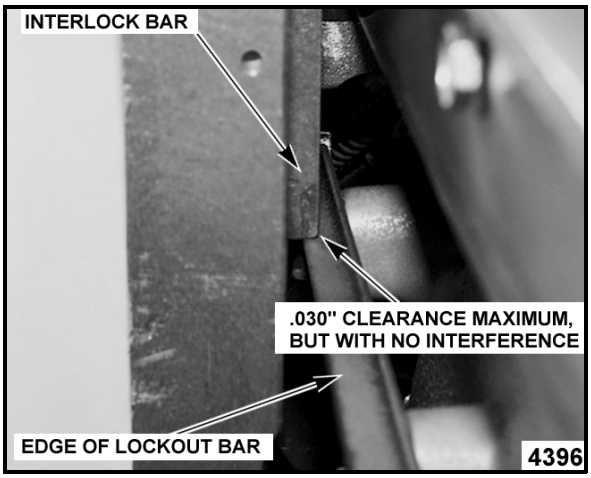


   B. Loosen the allen screw holding the roller bearing assembly to the carriage transport assembly using the special Allen wrench.



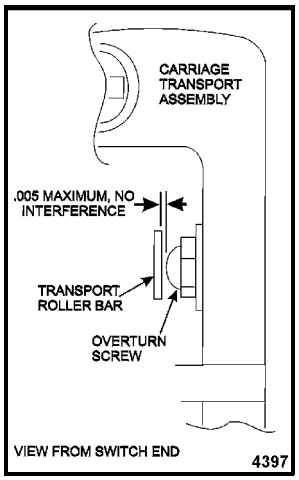
   C. Turn the adjusting screw until the interlock bar clears the bottom of the pivoting interlock plate assembly by .005" to .020" and tighten the allen screw.

6. To adjust the interlock bar clearance:
   A. Remove two screws holding transport cover to transport.



   B. Install “CARRIAGE TRAY ASSEMBLY”(as outlined in the service manual) which moves the interlock bar to the operating position and move the carriage transport assembly away from the home position.
   C. Turn the interlock bar shaft until the interlock bar clearance to the edge of the lockout bar is .030" maximum but with no interference.
   D. Remove “CARRIAGE TRAY ASSEMBLY” (as outlined in the service manual).
   E. Reinstall transport cover to transport.

To adjust the overturn screw within .005" maximum, but with no interference with the transport roller bar, loosen the locknut and turn the overturn screw to obtain the proper clearance.



F. Tighten the locknut.

7. Using key plate tool move the carriage transport assembly out of the interlocked position and move it back and forth its full travel, placing it in and out of the interlocked position, checking for proper movement and interlocking.
8. Reassemble in reverse order, step 3.
9. Check “CARRIAGE TRAY ASSEMBLY ADJUSTMENTS” as outlined in this supplement.
10. Check unit for proper operation.

INTERLOCK SWITCH ADJUSTMENT

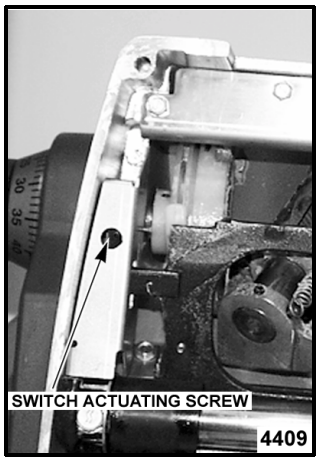
NOTE: The slicer must shut off with the carriage tray assembly at the “home position” and tilted outward.

To test, place the carriage tray assembly at the “home position” and tilt the carriage tray outward. Put a slight counterclockwise pressure on the index knob (attempting to open gauge plate) and pull the ON-OFF-START switch knob to the Start position. Release the switch to the Run position while still applying pressure to index knob. If the slicer continues to run, release the pressure on the index knob. **The slicer must shut off.**

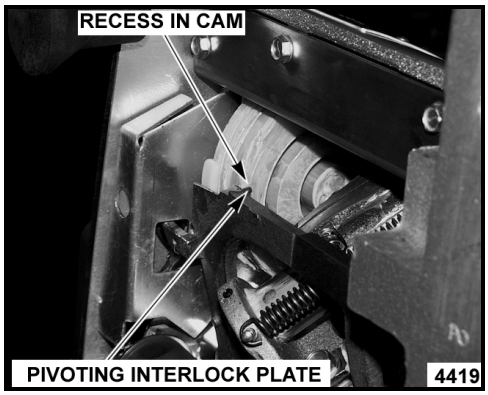
WARNING: CERTAIN PROCEDURES IN THIS SECTION REQUIRE ELECTRICAL TESTS OR MEASUREMENTS WHILE POWER IS APPLIED TO THE MACHINE. EXERCISE EXTREME CAUTION AT ALL TIMES. IF TEST POINTS ARE NOT EASILY ACCESSIBLE, DISCONNECT POWER, ATTACH TEST EQUIPMENT AND REAPPLY POWER TO TEST.

TO ADJUST:

1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS”, steps 1-6 and 9-9B as outlined in this supplement.
2. Check “CARRIAGE TRANSPORT ASSEMBLY ADJUSTMENTS” as outlined in this supplement. Adjust as necessary.
3. With the index knob fully clockwise and released, back off the switch actuating screw in the interlock plate assembly and verify the screw has a locking patch on it. If not, Loctite No. 242, part No. 520228 must be applied to the threads prior to adjustment.



4. Move the transport assembly away from home position.
5. Slowly turn the switch actuating screw clockwise until the pivoting interlock plate just begins to lift from the recess in the cam.
   A. Slowly turn the actuating screw counterclockwise until the interlock plate is bottomed into the recess in the cam.



6. Test the adjustment as outlined at the beginning of this procedure.
7. Check that turning the index knob to “0" or below “0" shuts the slicer off.
   A. If it does not, adjust the “GAUGE PLATE AND INDEXING KNOB” as outlined in the service manual.
   B. Unplug slicer.
8. Reassemble in reverse order step 1.
9. Check unit for proper operation.

CARRIAGE TRAY ASSEMBLY ADJUSTMENTS

The carriage tray assembly is adjusted properly when:

1. the tray is square to the knife edge and,
2. the two adjusting screws in the transport assembly contact the drive studs in the tray arm simultaneously and,
3. there is .090" to .125" clearance between three specific points on the edge of the carriage tray and the knife.

TO ADJUST:

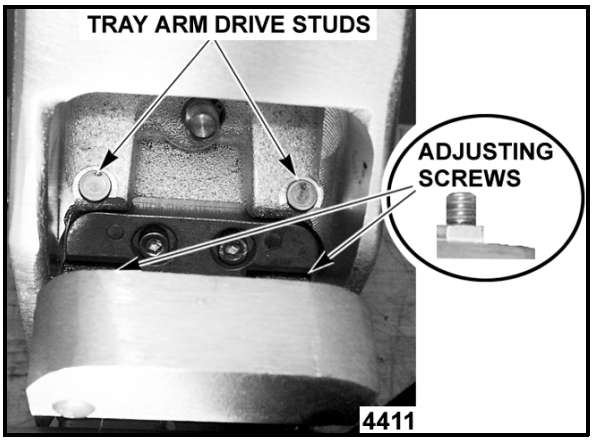
WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Check “CARRIAGE TRANSPORT ASSEMBLY ADJUSTMENTS” as outlined in this supplement.
2. Remove the knife cover.
3. Securely attach the carriage tray assembly to the transport assembly.
4. Check the squareness of the carriage tray to the knife.

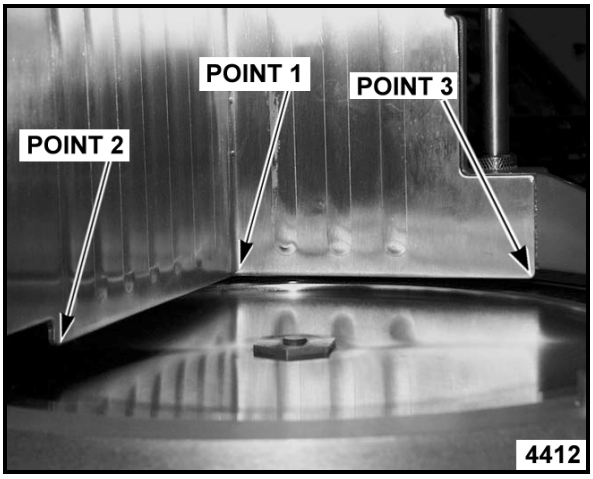
A. **To adjust the squareness:**

1) Rotate the adjusting screws in the transport as needed to square the arm. Lock in place using the jam nuts.

2) Verify both screws are touching the drive studs by inserting a thin piece of paper between the adjusting screws and the tray arm drive studs, then closing the arm against the adjusting screws. Open the arm, remove the paper and check it for signs of contact. Both screws must make contact with the tray arm drive studs.



5. Check the gap between the tray edge and the knife edge by measuring at three points.



A. Move the tray until point 1 (tray “V”) is above the knife edge. **Measure the gap and record the dimension**.

B. Move the tray until point 2 (leading edge of tray) is above the knife edge. **Measure the gap and record the dimension**.

C. Move the tray until point 3 (upper tip of tray wall) is above the knife edge. **Measure the gap and record the dimension**.

6. Confirm that the gap MEASURED IN STEP 5A, 5B, AND 5C at points 1, 2 and 3 are **BETWEEN .090" AND .125".**

   A. **To adjust the gap:**

NOTE: Anytime the earlier version tray assembly is split from the tray support, RTV 732 must be reapplied to seal the two assemblies together.

1) Loosen the four nuts (screws on earlier units) on the carriage tray. Apply Loctite 242 to the carriage tray studs on the newer units.
2) Move the tray to achieve the .090" to .125" clearance.
3) Torque the four nuts to 80 in. lbs. or tighten the screws.
4) Recheck the gap after tightening.

SCALE KEYPAD AND CABLE TEST

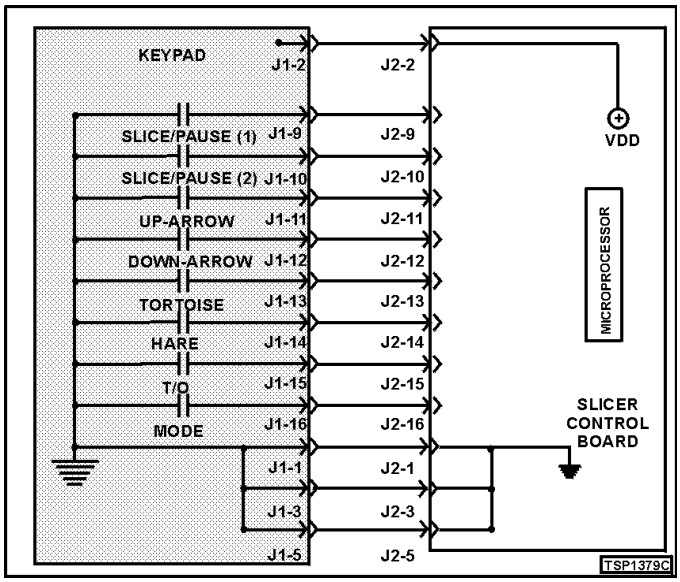
NOTE: When an individual keypad button is pressed for a continuity test, a reading of 100 ohms or less is acceptable.

WARNING: UNPLUG UNIT BEFORE SERVICING.

1. Perform “UPPER BASE AND AUTOMATIC BASE COMPONENT ACCESS” steps 1-6 and 8 as outlined in this supplement.
2. Disconnect cable at J2 on the slicer control board.
3. Place a probe at pin 1 or 3 or 5 on the display cable connector.
4. Test each individual keypad button by pressing and taking a continuity reading at the proper connector pin number.

NOTE: When the slice/pause switch is pressed there should be continuity at pins 9 and 10.

5. Reassemble in reverse order step 1.
6. Check unit for proper operation.



ELECTRICAL OPERATION

COMPONENT FUNCTION

Loadcell . . . . . . Used to measure the weight of the product on the platter.

NOTE: Works like a group of variable resistors. The resistance varies by the amount of strain that is put on the loadcell.

Scale Board . . . . . . Takes the signal developed through the loadcell and converts it to a signal that is displayed. Contains the transformer for converting 115 VAC to needed voltages.

Scale Keypad . . . . . . Indicates weight on the platter, slice count and information in the service mode. In normal operation, digits will go blank after 5 minutes if not used, but LED annunciators and decimal point will remain lit. Six LEDS indicate carriage speed selected.

Slice Switch (3LS) . . . . . . Monitors carriage tray movement for slice count and auto shutoff feature.

Slicer Control Board . . . . . . Monitors conditions and controls operation of components.

Automatic/Manual Switch (3S) . . Controls mode of operation.

NOTE: 120 VAC REFERS TO THE HOT SIDE OF THE LINE VOLTAGE (BLACK WIRE).

The following examples are based on a model 2912PS, 120/60/1, Wiring Diagram F-34185B.

MANUAL SEQUENCE OF OPERATION

1. Conditions:
   - A. Correct voltage is supplied to slicer.
   - B. Index knob is turned to “0" or above (Carriage Interlock Switch 1LS closed).
   - C. Carriage Tray Assembly in the home position (Home Start Switch 2LS closed).
   - D. On/off Switch 1SW in OFF position.
   - E. Automatic/Manual 2S/3S Switch in manual position (2S contacts C-NC closed).
   - F. Slicer plugged in 120VAC applied to 1SW-4, J3-10 Slicer Control Board, 1CR-2, 2CR-2 and J5-1 Scale Board. Neutral applied to J3-11 Slicer Control Board, 1CR-0, 2CR-0, J2 Motor Control Board and J5-5 Scale Board.
2. Operator pulls On-Off switch 1SW to start position. 120VAC applied to J3-9, J3-12, J3-8, J3-7, 1CR energizes through pin J3-7 on slicer control board.
   - A. 1PL lights and 1MTR (knife motor) is energized through 1CR-2/4.
3. 1CR locks through 1SW-4/1, 1LS and slicer control board.
4. Display shows slice count or weight, the preset indicator is off and speed LED(S) are lit.
5. Operator releases 1SW, 1SW-2/3 open, 1SW-4/1 stay closed.
6. Operator manually moves carriage transport assembly through one complete forward stroke, passing slice count switch 3LS.
7. Display increases by one slice count or weight of slice for each complete forward carriage stroke.
8. Operator returns carriage transport assembly to home position.

AUTOMATIC SEQUENCE OF OPERATION

NOTE: This sequence begins with conditions as stated in Steps 1A thru 1F under "MANUAL SEQUENCE OF OPERATION " as outlined in this supplement.

1. Operator pulls On-Off switch 1SW to start position. 120VAC applied to J3-9, J3-12, J3-8, J3-7. 1CR energizes through pin J3-7 on slicer control board.
   A. 1PL lights and 1MTR (knife motor) is energized through 1CR-2/4.
2. 1CR locks through 1SW-4/1, 1LS and slicer control board.
3. Display shows slice count or weight, the preset indicator is off and speed LED(S) are lit.
4. Operator releases 1SW, 1SW-2/3 open, 1SW-4/1 stay closed.
5. Operator makes speed selection.
6. Operator turns manual/automatic lever to automatic position. Normally open contacts of 2S and 3S close. 120VAC applied to J3-5 thru 2S.
   A. 120 VAC Neutral at J3-3 from slicer control board.
7. Operator enters a slice count or weight, if desired. The PRESET LED lights.
8. Operator presses slice/pause switch. Slicer Control Board switches to the automatic mode.
9. 2CR energized through 1SW, 2LS, 2S, J3-5, J3-3 and 3S.
   A. 2CR -2/4 close, 120VAC through 2CB-A/B to J1 on motor control board.
10. Motor control board energizes 2MTR (Automatic Drive Motor). Automatic Carrier Assembly moves and engages pawl on Carriage Transport Assembly.
11. Carriage Transport Assembly passes the slice count switch 3LS, on the forward stroke.
    A. If a slice count or weight other than zero was selected, the slice count display decreases by one or the weight display increases by the weight of the slice.
    B. If a slice count or weight was not selected, count display increases by one or weight display increases by weight of slice. If the slice count reaches 99, it returns to zero on the next stroke, and a beep will sound.
12. Carriage begins the return stroke.
    A. When the unit counts **DOWN** to zero (slice count mode) or weight is reached (weigh mode), the motor speed is reduced as the carriage returns HOME. The PRESET LED remains lit. The preset cycle can be resumed by pushing Slice/Pause switch again.

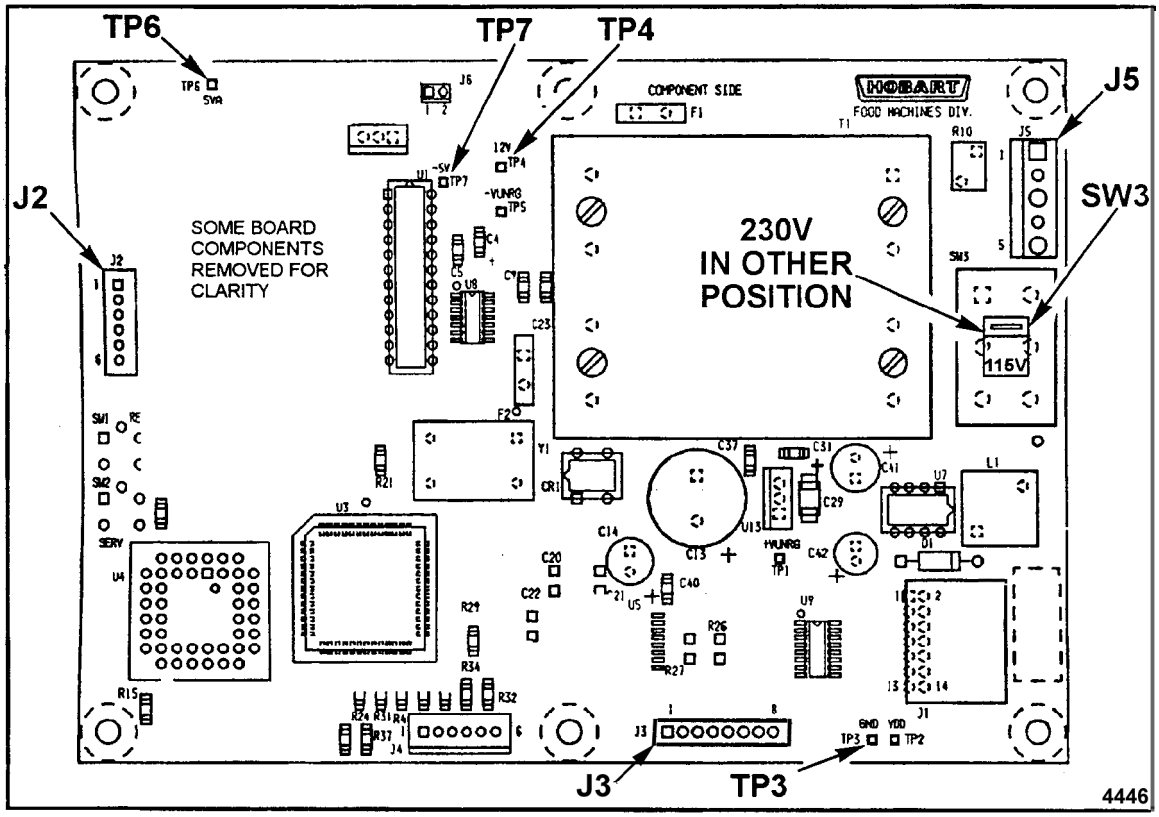
NOTE: The motor speed is reduced as the carriage returns HOME to ensure the carriage does not coast beyond the home position.

13. If the Slice/Pause switch is operated anytime during the carriage stroke, the carriage returns home and stops.

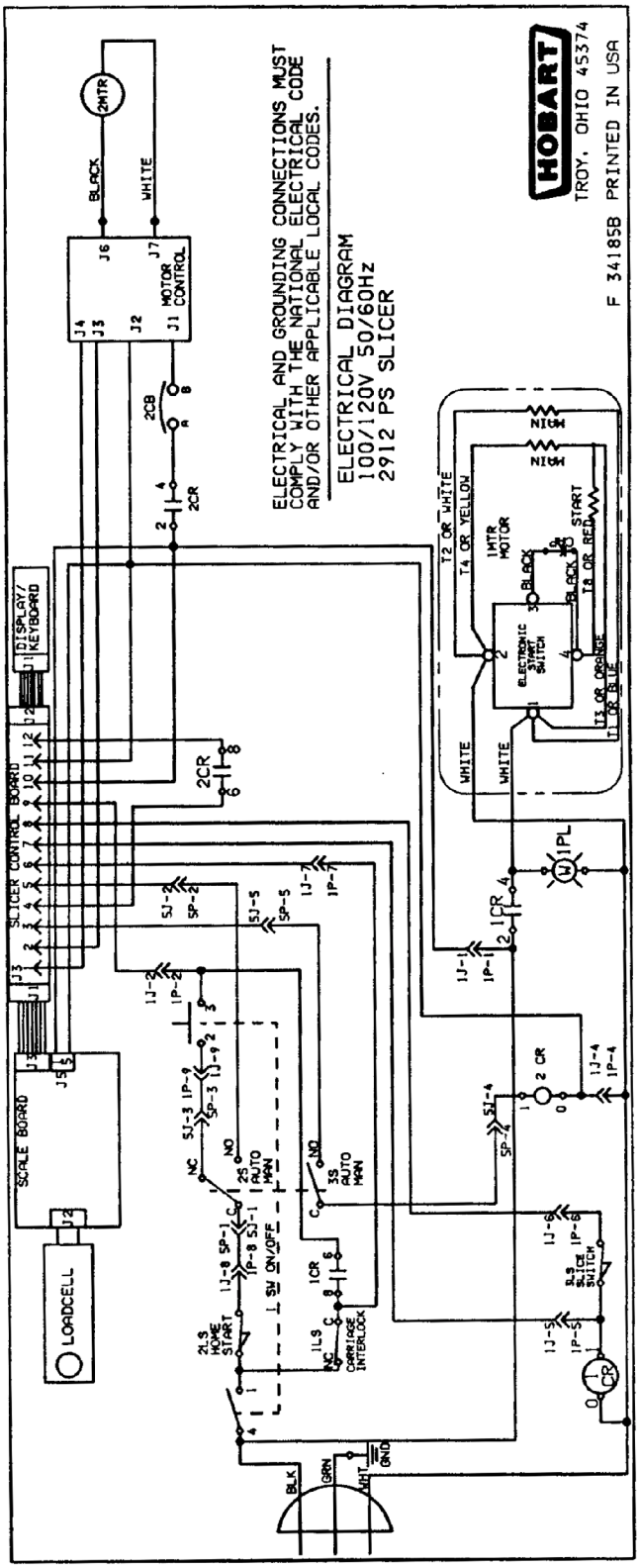
SCALE BOARD INFORMATION

See “Scale Board Test “ in this supplement, for voltage checks.

PLUG CONNECTIONS	
COMPONENT	CONNECTOR
Loadcell	J2
Slicer Control Board	J3
Wiring Harness	J5



WIRING DIAGRAM



TROUBLESHOOTING

NOTE: This troubleshooting covers those symptoms unique to the model 2912PS.

SYMPTOM	POSSIBLE CAUSES
Scale unit and slicer inoperative.	1. Unit unplugged. 2. Check main circuit breaker.
Display blank; slicer operates.	1. Scale keypad malfunction. 2. Slicer control board inoperative.
Scale does not zero when powered up. “E -1" on display.	1. Platter not on platter support. 2. Mechanical interference. 3. ± 0.30 lb. (± 0.150 kg) from zero. 4. Loadcell inoperative. 5. Scale board inoperative.
“E-2" on display.	1. Unplug and re-plug power cord. If error continues - A. Scale board malfunction. B. Loadcell malfunction.
Scale operates; slicer will not start.	1. Slicer not in home position. 2. Interlock switch (1LS) open. 3. On-Off switch (1SW) malfunction. 4. Home start switch (2LS) or magnet malfunction. 5. Relay (1CR) inoperative. 6. Electronic start switch inoperative. 7. Capacitor malfunction. 8. Knife drive motor inoperative.
Scale operates; slicer will start, but does not continue to run.	1. Capacitor malfunction. 2. Knife drive motor malfunction. 3. Relay (1CR) inoperative. 4. Interlock switch (1LS) malfunction. 5. Slicer control board inoperative.
Cannot re-zero scale.	1. ± 0.11 lb (± 0.060 kg) from zero. 2. Platter not positioned correctly. 3. Platter stop screws not adjusted properly. 4. Scale board malfunction. 5. Loadcell inoperative.
Display not functional.	1. Scale keypad malfunction. 2. Display cable inoperative. 3. Slicer control board malfunction.
Scale does not weigh correctly.	1. Press →0← key to re-zero scale. 2. Platter not positioned correctly. 3. Platter binding. 4. Platter stop screws not adjusted properly. 5. Loadcell out of calibration. 6. Loadcell loose. 7. Loadcell inoperative. 8. Scale board malfunction.
Automatic drive motor (2MTR) will not start, knife motor running.	1. Circuit breaker (2CB) tripped. 2. Automatic/Manual switch 2S/3S inoperative. 3. Relay (2CR) malfunction. 4. Motor control board malfunction. 5. Slicer control board malfunction. 6. Scale keypad malfunction. 7. Automatic drive motor (2MTR) inoperative.
Auto Starts, then stops when it leaves home position.	1. 2CR inoperative. 2. Slicer Control Board malfunction.
No counting of slices.	1. Slice switch (3LS) malfunction. 2. Slicer control board malfunction
No counting of slices, automatic drive motor won’t stop when slice/pause switch pressed (automatic operation).	1. Slice switch (3LS) malfunction. 2. Slicer control board malfunction
Up/Down arrow for speed selection pressed, next led does not light.	1. Scale keypad malfunction.
Beeper on continuously.	1. Slicer Control Board malfunction.